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United States Patent [19]

Okada et al.

[11] **Patent Number:** 5,635,950[45] **Date of Patent:** Jun. 3, 1997[54] **DRIVE CIRCUIT FOR A DISPLAY APPARATUS**

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Related U.S. Application Data

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[52] **U.S. Cl.** **345/95; 345/204; 345/210**

[58] **Field of Search** 345/87, 95, 99,
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[57] **ABSTRACT**

In a drive circuit for a display apparatus into which a digital video signal is input and in which a plurality of parallel signal electrodes are provided, one of signal voltages having different levels is output in accordance with the digital video signal, or two adjacent ones of said signal voltages are simultaneously output. Alternatively, one of the signal voltages is supplied to a signal electrode in one portion of one output period, and another one of the signal voltages is supplied to the signal electrode in another portion of the output period. The length ratio of the two portions of one output period is appropriately determined according to the digital video signal, whereby an arbitrary voltage corresponding to the video signal data can be applied to the pixel.

10 Claims, 25 Drawing Sheets